Speedball Mid Fire

SAFETY DATA SHEET (SDS)

Version: 02
Date of Issue: February 25, 2025

According to: Regulation (EC) No. 1272/2008
Regulation (EC) No. 1907/2006

Section 1 – Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name: Speedball Mid Fire

Product Colors: Living Coral, Orange Creamsicle, Gossamer Drift, Raspberry Fizz, Variegated Lapis, Storied Sage, Teal Agate, Blue Moss, Midnight Plum, Ethereal Blue, Coriander, Biscotti, Blackcurrant, Wisteria, Night Shade, Green Tourmaline, Buttermilk, Smoke, Blushing White, Blackened Cooper, Champagne Quartz, Jasper, Natural Opal, Lemon Drop

Product sizes: 2 fl. oz. (59.1 mL) - 128 fl. oz. (3.78 L)

Other Means of Identification
Unique Formula Identifier: See product label
Other: None known

Product Description: Colored liquid glaze formulations intended to be applied with a brush then placed in a kiln for glaze firing.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s): The product is intended for general (adults) arts and crafts purposes.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Speedball Europe
Villantipolis 5
473 route des Dollines
06560 Valbonne, France
Business Phone: +33 6 03 36 21 73
Email: europe@speedballart.eu

1.4 Emergency telephone number

Emergency Telephone: Transportation emergencies only: Infotrac 1-352-323-3500

Section 2 – Hazard(s) Identification

2.1. Classification of the substance or mixture

According to: Regulation (EC) No 1272/2008 [CLP]

	Physical	Health	Environment [a]
Classification according to Regulation (EC) No 1272/2008 [CLP]	Not classified	Not classified	H401: Acute aquatic toxicity (Category 2) H411: Chronic aquatic toxicity (Category 2)
SCL and/or M-factor	Not applicable	Not applicable	Not applicable
Classification Procedure	Weight of evidence	Weight of evidence	Weight of evidence

[a] This SDS applies to the product line, as such the environmental classifications listed do not pertain to all colors. It should be noted that some colors may present environmental concerns to a lesser degree (*i.e.*, Category 3 or 4) and some colors may present no concerns.

2.2. Label elements

Label Pictogram:



Signal Word: Warning

Hazard Statements & Precautions:

Acute aquatic toxicity (Category 2) (H401)	**Toxic to aquatic life with long lasting effects.**
	P273: Avoid release to the environment.
Chronic aquatic toxicity (Category 2) (H411)	**P391:** Collect spillage.
	P501: Dispose of contents/container in accordance with local, regional, national, and/or international regulation.

Supplemental Hazard Information:

- EUH211: Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

2.3. Other hazards

- Substances when carried in single or combination packaging containing a net quantity per single or inner packaging of 5 kg or less for solids are not subject to any other provisions of ADR provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Should the single or inner packaging condition or provisions not be met, transportation restrictions will need to be revisited.
- This product is not expected to be endocrine disrupting.
- This product is not expected to meet the criteria for vPvB or PBT in accordance with Regulation (EC) No. 1907/2006, Annex XIII.

Section 3 – Composition / Information on Ingredients

3.1 Substances

The product is a mixture and not a substance.

3.2 Mixtures

Chemical Name	CAS No.	EC No.	% Concentration [a]	GHS Hazards
Crystalline silica (Quartz)	14808-60-7	238-878-4	≤22.4691%	H350: Carcinogenicity (Category 1) (Inhalation); H372: Specific target organ toxicity (repeated exposure, Category 1, lungs)
Cobalt carbonate	513-79-1	208-169-4	≤0.7550%	H317: Skin sensitization (Category 1) H334: Respiratory sensitization (Category 1) H341: Germ cell mutagenicity (Category 2) H350: Carcinogenicity (Category 1B) (Inhalation); H360F: Reproductive toxicity (Category 1B; may damage fertility) H400: Hazardous to the aquatic environment - short term (acute) hazard (Category 1); H410: Hazardous to the aquatic environment – long term (chronic) hazard (Category 1)
Zinc oxide	1314-13-2	215-222-5	≤6.7600%	H371: Specific target organ toxicity (single exposure, Category 2, gastrointestinal tract); H400: Hazardous to the aquatic environment – short term (acute) hazard (Category 1); H410: Hazardous to the aquatic environment – long term (chronic) hazard (Category 1)
Titanium dioxide	13463-67-7	236-675-5	≤4.2781%	H351: Carcinogenicity (Category 2) (Inhalation)
Feldspar	68476-25-5	270-666-7	≤15.6811%	H335: Specific target organ toxicity (single exposure, Category 3, respiratory irritation); H319: Eye Irritation (Category 2)

[a] Concentrations are calculated as a maximum across all products, rather than by color.

The other ingredients in the product are either considered non-hazardous or are below their respective GHS cut-off values/concentration limits in the final product and were therefore not disclosed in the SDS.

It should be noted that the product may contain quartz (CAS No.14808-60-7) and titanium dioxide (CAS No. 13463-67-7) which may be hazardous when inhaled. Given the nature and physical form of the product (*i.e.,* liquid glaze) airborne respirable particles would not likely be released from the product and therefore the hazard is not relevant to the product.

Assessment of this product was based on the assumption that the glaze will not be sanded after it has been fired in the kiln.

	Specific Concentration Limit	Multiplying-Factor	Acute Toxicity Estimate
Speedball Mid Fire	N/A	1	>2000 mg/kg (oral/dermal) >20 mg/L (inhalation)

Section 4 – First Aid Measures

4.1 Description of first aid measures

Eye contact: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and immediately flush eyes with water. Seek medical attention if in doubt.

Skin contact: No specific first aid measures are required. If irritation occurs, wash with plenty of water and soap. Take off contaminated clothing. If skin irritation persists: Get medical advice/attention.

Inhalation: No specific first aid measures are required. Inhalation route of exposure is not anticipated with intended use. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Seek medical attention if in doubt.

Ingestion: No specific first aid measures are required. Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention if in doubt.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to **Section 11 - Toxicological Information**.

4.3 Indication of any immediate medical attention and special treatment needed

- Not required.

Section 5 – Fire Fighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media: Use extinguishing media suitable for surrounding area if material is involved in a fire (e.g., water fog, foam, dry chemical or carbon dioxide).

Unsuitable Extinguishing Media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products:

- Irritating vapours or fumes may form if product is involved in fire:
- Also see **Section 10 - Stability and Reactivity**.

5.3 Advice for firefighters

- Wear a self-contained breathing apparatus to protect against potentially irritating vapours or fumes.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment (PPE) and emergency procedures

Personal Precautions: Ventilate area if spilled in confined space or other poorly ventilated areas. Observe PPE advice in **Section 8 – Exposure Controls/Personal Protection**.

Emergency Procedures: Not available.

6.2 Environmental precautions:

- Prevent entry and contact with soil, drains, sewers, and waterways. Collect spillage. Inform relevant local/regional/national/international authorities. Prevent further leakage or spillage if it is safe to do so.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures: Contain spill if safe to do so. Collect recoverable product and place in a designated container for recycle and/or disposal. Ventilate contaminated area thoroughly. Dispose of contents/container in accordance with local/regional/national/international regulations.

6.4 Reference to other sections

- Refer to **Section 8 - Exposure Controls/Personal Protection** and **Section 13 – Disposal Considerations**.

Section 7– Handling and Storage

7.1 Precautions for safe handling

- Wash hands thoroughly after handling.
- Wash contaminated clothing before reuse.
- Employees should be trained in the safe use and handling of chemical materials.
- Refer to **Section 8 - Exposure Controls/Personal Protection**.

7.2 Conditions for safe storage, including any incompatibilities

- Keep container tightly closed to avoid spills.
- Keep in a cool dry place.

7.3 Specific end use(s)

- Refer to **Section 1.2 - Relevant identified uses**.

Section 8– Exposure Controls / Personal Protection

8.1 Control Parameters:

Occupational exposure limits: Only vapours were considered to be foreseeable under conditions of normal use. Airborne particles, such as dust, are not foreseeable under conditions of normal use.

Chemical Name	CAS No.	ACGIH TLVs TWA	OSHA PELs TWA	NIOSH RELs TWA	DFG MAK TWA
Silica, crystalline, mixed respirable (quartz, cristobalite, tridymite)	14808-60-7	0.025 mg/m^3 [a]	0.05 mg/m^3	0.05 mg/m^3	N/A
Titanium dioxide	13463-67-7	10 mg/m^3 [a]	15 mg/m^3 [b]	N/A	0.3 mg/m^3 **R** [c]
Zinc oxide, dust & fume	1314-13-2	2 mg/m³ [a]	5mg/m³	5 mg/m³	0.1 mg/m3 **R**

N/A – Not applicable
R – Measured as respirable fractions of the aerosol

[a] Respirable particulate matter
[b] Total dust
[c] Multiplied with the material density

Note: Titanium dioxide (CAS No. 13463-67-7) values listed above are related to non-ultrafine and non-nanoscale or finescale particles

8.2 Exposure Controls:

Appropriate engineering controls

- No special requirements under ordinary conditions of use and with adequate ventilation. Mechanical ventilation or local exhaust ventilation may be required.

8.3 Personal Protective Equipment

Note: Consider the concentration and amount of product at the workplace when selecting PPE. Use protective equipment as required.

Respiratory: Under normal conditions of use, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

Eyes/Face: If contact is likely, safety glasses with side shields are recommended.

Hands: Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur, wear chemically protective gloves.

Body/Skin: Gloves, coveralls, apron, boots as necessary to minimize contact. Do not wear rings, watches or similar apparel that could entrap the material.

Thermal Hazards: None known.

Environmental Exposure Controls: Not available.

Hygiene measures: Observe good industrial hygiene practices. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace and should be washed before reuse. When using the product do not eat, drink or smoke.

Section 9 – Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Note: The data below are typical values and do not constitute a specification.

Appearance: **Physical state:** **Colour:** **Odour/Odour threshold:**	 Liquid **See section 1.1** Not available	**Partition Coefficient n-octanol/water:**	Not available
Melting/freezing point:	Not available	**pH (as supplied):**	7 - 8
Boiling point and boiling range:	Not available	**Solubility:**	Not available
Flammability:	Not available	**Kinematic viscosity:**	Not available
Upper/lower explosive limits:	Not available	**Vapour pressure:**	Not available
Flash point:	Not available	**Density:**	Not available
Auto-ignition temperature:	Not available	**Relative vapour density**	Not available
Decomposition temperature:	Not available	**Particle characteristics:**	Not available

9.2.1 Information with Regard to Physical Hazard Classes

Explosives	Not available
Flammable gases	Not available
Aerosols	Not available
Oxidising gases	Not available
Gases under pressure	Not available
Flammable liquids	Not available
Flammable solids	Not available
Self-reactive substances and mixtures	Not available
Pyrophoric liquids	Not available
Pyrophoric solids	Not available
Self-heating substances and mixtures	Not available
Substances and mixtures, which emit flammable	Not available

gases in contact with water	
Oxidising liquids	Not available
Oxidizing solids	Not available
Organic peroxides	Not available
Corrosive to metals	Not available
Desensitised explosives	Not available

9.2.2 Other Safety Characteristics

Mechanical sensitivity	Not available
Self-accelerating polymerisation temperature	Not available
Formation of explosible dust/air mixtures	Not available
Acid/alkaline reserve; (e) evaporation rate	Not available
Miscibility	Not available
Conductivity	Not available
Corrosiveness	Not available
Gas group	Not available
Redox potential	Not available
Radical formation potential	Not available
Photocatalytic properties	Not available

Section 10 – Stability and Reactivity

10.1 Reactivity

- This material is not considered to be reactive under normal handling and storage conditions.

10.2 Chemical stability

- This material is considered stable under normal handling and storage conditions.

10.3 Possibility of hazardous reactions

- Not expected to occur under normal handling and storage conditions.

10.4 Conditions to avoid

- Exposure to high temperatures.
- Strong acids.
- Strong bases.
- Strong oxidisers.

10.5 Incompatible materials

- Strong acids.
- Strong bases.
- Strong oxidisers.
- Strong reducing agents.

10.6 Hazardous decomposition products

- Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion. Irritating and toxic substances may be emitted upon combustion, burning, or decomposition of dry solids.

Section 11 – Toxicological Information

11.1. Information on hazard classes:

Likely routes of exposure: Skin contact.
Potential signs and symptoms: None expected under conditions of normal use.

Acute oral toxicity:	The product is practically non-toxic based on available animal and human use data. The oral ATE for the whole product is >2000 mg/kg.
Acute dermal toxicity:	The product is practically non-toxic based on available animal and human use data. The dermal ATE for the whole product is ATE >2000 mg/kg.
Acute inhalation toxicity:	The product is practically nontoxic based on available animal and human use data. The inhalation ATE for the whole product is >2 mg/L.
Skin corrosion/irritation:	The ingredients of this product at >1% are not skin irritants based on human and/or animal studies.
Serious eye damage/irritation:	Feldspar (CAS No. 68476-25-5) has been classified for eye irritation (Category 2). Product classification is not warranted for eye irritation based on a review of available data. The other ingredients in this product >1% are not damaging to the eyes or eye irritants based on human and/or animal studies.
Respiratory or skin sensitization:	Cobalt carbonate (CAS No. 513-79-1) has been classified for skin and respiratory sensitization (Category 1). Product classification is not warranted for skin sensitization given the concentration of cobalt carbonate in the product and a review of available data. Product classification is not warranted for respiratory sensitization given the nature and physical form of the product (*i.e*., liquid glaze). The other ingredients in this product at >0.1% are not sensitizing to the skin based on human and/or animal studies.
Mutagenicity:	Cobalt carbonate (CAS No. 513-79-1) has been classified for germ cell mutagenicity (Category 2). Product classification is not warranted for mutagenicity based on nature and physical form of the product (*i.e*., liquid glaze). The other ingredients in the product at >0.1% are not mutagenic based on animal studies or no data identified for the ingredients in this product.
Carcinogenicity:	Quartz (silicon dioxide) (airborne, unbound particles of respirable size) (CAS No. 14808-60-7) has been classified for carcinogenicity (Category 1). Quartz (silicon dioxide) [listed as silica dust, crystalline, in the form of quartz or cristobalite (CAS No. 14808-60-7)] is listed as a carcinogen by IARC, NTP and ACGIH. Titanium dioxide (airborne, unbound particles of respirable size) (CAS No. 13463-67-7) has been classified for carcinogenicity (Category 2). Titanium dioxide (airborne, unbound particles of respirable size) (CAS No. 13463-67-7) is listed as a carcinogen by IARC and ACGIH. Product classification is not warranted for carcinogenicity based on nature and physical form of the product (*i.e*., liquid glaze). Cobalt carbonate (CAS No. 513-79-1) has been classified for carcinogenicity (Category 1). Product classification is not warranted for carcinogenicity based on nature and physical form of the product (*i.e*., liquid glaze). The other ingredients in the product >0.1% are not carcinogenic based on animal studies or no data identified for the ingredients in this product.
Reproductive Toxicity:	Cobalt carbonate (CAS No. 513-79-1) has been classified for reproductive toxicity (Category 1B, may damage fertility). Product classification is not warranted for reproductive toxicity given the concentration of cobalt carbonate in the product and a review of available data. The other ingredients in the product at >0.1% are not reproductive toxicants based on animal studies or no data identified for the ingredients in this product.
Specific target organ toxicity (single exposure):	Zinc oxide (CAS No. 1314-13-2) has been classified for specific target organ toxicity (single exposure, Category 2; may cause irritation to the gastrointestinal tract through oral exposure). Product classification is not warranted for gastrointestinal irritation given the concentration of zinc oxide in the product and a review of available data. Feldspar (CAS No. 68476-25-5) has been classified for specific target organ toxicity (single exposure, Category 3; may cause respiratory irritation).

	Product classification is not warranted for this effect based on a review of available data and the nature and physical form of the product (*i.e.*, liquid glaze). The other ingredients in this product >1% are not specific target organ toxicity (single exposure) hazards based on animal studies or no data identified for the ingredients in this product
Specific target organ toxicity (repeated exposure):	Quartz (silicon dioxide) (CAS No. 14808-60-7) has been classified for specific target organ toxicity (repeated exposure, Category 1; causes damage to lungs through prolonged or repeated exposure *via* inhalation). Product classification is not warranted for this effect given the nature and physical form of the product (*i.e.*, liquid glaze). The other ingredients in this product >1% are not specific target organ toxicity hazards (repeated exposure) based on available information, human and/or animal studies.
Aspiration hazard:	The ingredients in the product at >1% are not aspiration hazards based on animal studies or no data identified for the ingredients in this product.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

- This product is not expected to be endocrine disrupting

11.2.2 Information on other hazards

- No other hazards to note.

References:

ECHA (European Chemicals Agency). 2023. REACH Registered Substances Database. https://echa.europa.eu/search-for-chemicals
IARC (International Agency for Research on Cancer). 2025. Agents Classified by the IARC Monographs, Volumes 1–129. https://monographs.iarc.who.int/list-of-classifications/
NTP (National Toxicology Program). 2021. Report on Carcinogens, Fifteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. https://ntp.niehs.nih.gov/go/roc15
Official Journal of the European Union. 2008. Regulation (EC) No 1272/2008. http://data.europa.eu/eli/reg/2008/1272/2022-03-01

Section 12 – Ecological Information

12.1 Toxicity

- Product is classified for acute and chronic aquatic toxicity (Category 2).

Chemical Name	CAS No.	Species	Result
Cobalt carbonate	513-79-1	*Oncorhynchus mykiss*	LC_{50}: 0.8 mg Co/L
		Ceriodaphnia dubia	LC_{50}: 0.61 mg Co/L
		Dendraster excentricus	LC_{50}: 2.32 mg Co/L
		Pseudokirchneriella subcapitata	EC_{50}: 95 µg Co/L - 486 µg Co/L
			EC_{10} : 22.0 µg Co/L - 297 µg Co/L
		Champia parvula	EC_{50}: 24.1 µg Co/L
			EC_{10} : 1.23 µg Co/L
		Skeletonema costatum	EC_{50}:100,000 µg Co/L
		Dunaliella tertiolecta	EC_{10} : 11,961 µg Co/L
Zinc oxide	1314-13-2	*Danio rerio*	LC_{50} (96h): 1.55 mg/L (bulk ZnO) nominal EC_{50} (84h): 2.066 mg/L (bulk ZnO) nominal
		Danio rerio	EC_{50} (48h): > 5 - < 16.2 mg/L (bulk ZnO) nominal
		Daphnia magna	EC_{50} (48h): >1.4 - <2.5 mg/L nominal
		Daphnia magna	EC_{10} (72h): 0.42 mg/L nominal

12.2 Persistence and degradability

- No data available for the ingredients of the product.

12.3 Bioaccumulative potential

- No data available for the ingredients of the product.

12.4 Mobility in Soil

- No data available for the ingredients of the product.

12.5 Results of PBT and vPvB assessment

- No data available for the ingredients of the product.

12.6 Endocrine disrupting properties

- This product is not expected to be endocrine disrupting.

12.7 Other adverse effects

- No further data available.

References:

ECHA (European Chemicals Agency). 2023. REACH Registered Substances Database. https://echa.europa.eu/search-for-chemicals

Section 13 – Disposal Considerations

13.1 Waste treatment methods

Preparing wastes for disposal: Use product for its intended purpose or recycle if possible. Dispose of waste in accordance with local, regional, national, and/or international regulations. The empty container has residues which may exhibit hazards of the product.

Contaminated Packaging: Container packaging is not expected to exhibit hazards.

Section 14 – Transport Information

Note: This product is not regulated as dangerous goods for transport. Substances when carried in single or combination packaging containing a net quantity per single or inner packaging of 5 kg or less for solids are not subject to any other provisions of ADR provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Should the single or inner packaging condition or provisions not be met, transportation restrictions will need to be revisited.

Review classification requirements before shipping materials at elevated temperatures.

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es):	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Maritime transport in bulk according to IMO instruments	Not applicable

Special precautions for use: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15 – Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Note: The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in **Section 3 – Composition / Information on Ingredients**.

European Union

Seveso Directive (2012/18/EU): Ethylene oxide (CAS No. 75-21-8) is listed. No other ingredients in this product are listed. Formaldehyde (CAS No. 50-00-0) (listed as formaldehyde, concentration ≥ 90%) is listed; however, does not meet concentration requirement and therefore this listing does not apply. No other ingredients in this product are listed.
Regulation (EC) No. 1005/2009, Annex I and II: No ingredients in this product are listed.
Regulation (EU) No. 649/2012, Annex I, Parts I-III: Ethylene oxide (CAS No. 75-21-8), cadmium (CAS No. 7440-43-9), and mercury (CAS No. 7439-97-6) are listed. No other ingredients in this product are listed.
Regulation (EU) No. 2019/1021, Annex I: No ingredients in this product are listed.

Germany:

Wassergefährdungsklasse (water hazard class): WGK 3 – Schwach wassergefährdend (severe hazard to waters).

International:

IARC: Crystalline silica (listed as silica dust, crystalline, in the form of quartz or cristobalite) (CAS No. 14808-60-7), formaldehyde (CAS No. 50-00-0), ethylene oxide (CAS No.75-21-8), cadmium (listed as cadmium and cadmium compounds) (CAS No. 7440-43-9), and hexavalent chromium (listed as chromium, metallic) (CAS No. 7440-47-3) are listed as Group 1, carcinogenic to humans. Silicon carbide (CAS No. 409-21-2) is listed as Group 2A, probably carcinogenic to humans. Titanium dioxide (CAS No. 13463-67-7), 1,4-dioxane (CAS No. 123-91-1), lead (CAS No. 7439-92-1), cobalt (II, III) oxide (CAS No. 1308-06-1), and vanadium oxide [(listed as vanadium pentoxide (orthorhombic crystalline form)] (CAS No. 1314-62-1) are listed as Group 2B, possibly carcinogenic to humans. Iron oxide (listed as ferric oxide) (CAS No. 1309-37-1), free crystalline silica (respirable fraction) (listed as silica, amorphous) (CAS No. 7631-86-9), mercury (CAS No. 7439-97-6), and wollastonite (CAS No. 13983-17-0) are listed as Group 3, not classifiable as to its carcinogenicity to humans. No other ingredients in this product are classified with respect to carcinogenicity.

15.2 Chemical Safety Assessment

- None available for the ingredients in this product.

Section 16 – Other Information

List of acronyms and abbreviations:

ACGIH: American conference of Governmental Hygienists	NTP: National Toxicology Program
ATE: Acute Toxicity Estimate	OSHA: Occupational Safety and Health Administration
CAS: Chemical Abstract Service Number	PBT: Persistent, Bioaccumulative and Toxic
CLP: Classification, Labelling and Packaging Regulation (EC) No. 1272/2008	PEL: Permissible Exposure Level
DFG MAK: Deutsche Forschungsgemeinschaf Maximale Arbeitsplatz-Konzentration	PPE: Personal Protective Equipment
EC: European Commission	REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
EC_{10}: 10% effect concentration	REL: Recommended exposure level
EC_{50}: Median effective concentration	SDS: Safety Data Sheet
ECHA: European Chemicals Agency	PBT: Persistent, Bioaccumulative and Toxic
GHS: Global Harmonized System	STOT RE: Specific target organ toxicity (repeated exposure)
IARC: International Agency for Research on Cancer	TLV: Threshold limit value
IMO: International Maritime Organization	TWA: Time-weighted average
LC_{50}: Lethal Concentration 50%	UN: United Nations
NOEC: No Observed Effect Concentration	vPvB: very Persistent, very Bioaccumulative
NIOSH: National Institute for Occupational Safety & Health	WGK: Wassergefährdungsklasse

References:

ECHA (European Chemicals Agency). 2023. REACH Registered Substances Database. https://echa.europa.eu/search-for-chemicals
IARC (International Agency for Research on Cancer). 2025. Agents Classified by the IARC Monographs, Volumes 1–129. https://monographs.iarc.who.int/list-of-classifications/
NTP (National Toxicology Program). 2021. Report on Carcinogens, Fifteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. https://ntp.niehs.nih.gov/go/roc15
Official Journal of the European Union. 2008. Regulation (EC) No 1272/2008. http://data.europa.eu/eli/reg/2008/1272/2022-03-01

Disclaimer:

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Revision Indicator: This is a 1st revision Safety Data Sheet.

Creation Date: November 22, 2023

Revision Date: February 25, 2025